

From: Bowman, Randal
To: [Richard Goeken](#)
Subject: records on Bush marine monuments
Date: Friday, August 11, 2017 5:12:21 PM
Attachments: [MCICNMIassessmentv4.doc](#)
[MCIHowlandBakerJarvisassessmentv5.doc](#)
[MCIJohnstonassessmentv5.doc](#)
[MCIPalmyraKingman assessmentv5.doc](#)
[MCIRose Atollassessmentv4.doc](#)
[MCIWakeassessmentv4.doc](#)
[MCI WH memo.doc](#)
[MCI - EEZ minerals.doc](#)

These documents are almost the only things I have that would be part of whatever administrative record might exist on this; I will search further next week to see if there is anything else.

The first 6 assessments were developed jointly by myself and NOAA review team members based on submissions from field staff at both agencies. The next to last item is the President's memo directing an assessment, which started the review process, and the last item, EEZ Minerals, is one I am not sure was submitted, as while the title of the file is accurate, the title on the paper inside is not; it covers all US Pacific islands, not just the remote ones. This mistake would not have survived the review process even if I had circulated it without correction. As I recall the information in this paper came from USGS.

Deep-Sea Mining and Mineral Resources - PRIA

Deep sea mining for marine minerals is at the brink of economic and technological viability. Mining companies such as Nautilus Minerals Inc. and Neptune Minerals Inc. have attracted significant capital investment and are currently exploring mineral deposits offshore of New Zealand, Papua New Guinea and Micronesia, and 10 leases were just issued offshore Vanuatu. These same companies have also expressed interest in mining in Japan, Fiji, Tonga, the Solomon Islands, and U.S. territorial waters.

Deep sea mining's best prospects are currently associated with polymetallic sulfide, or massive sulfide, deposits which occur along hydrothermal systems at mid-ocean ridges, back-arc rifts, and sea mounts in the Pacific Ocean, extending from New Zealand north to Japan. Many of these deposits are located in the EEZ of U.S. territories. Polymetallic sulfide deposits, highly enriched in gold, silver, copper, zinc, and base metals, have recently been discovered in relatively shallow depths (100 to 2000 m) making their extraction in the territorial EEZs all the more possible. Cobalt-rich ferromanganese crusts and phosphorites on seafloor plateaus, ridges, and sea mounts, as well as manganese nodules on adjacent abyssal plains, are also likely targets for the burgeoning marine mining industry. The most favorable setting for cobalt-rich ferromanganese crusts lies within and beyond the 200 nautical mile zones of the island nations of the western Pacific. Other minerals of interest in the EEZ include sand and gravel for aggregate and precious coral near volcanic islands, atolls, and carbonate platform islands. These mineral resources are located throughout the EEZ in the Pacific Rim. While data is lacking to provide a full resource assessment for all territorial EEZs, except those of Johnston and the Marshall Islands, all other proposed subject EEZs are known to be repositories for strategic mineral deposits, as are the American Samoa, Northern Mariana Islands, and Guam.

The following table gives an estimate of the crust potential within the EEZ of Pacific U.S. Trust and Affiliated Territories.

<i>EEZ</i>	<i>Potential</i>
Marshall Islands	High
Northern Marianas	Medium
Johnston Atoll	Medium
Kingman/Palmyra	Medium
Belau (Palau)	Medium
Howland-Baker	Low
American Samoa	Low
Guam	Low
Jarvis	Low
Wake Atoll	Low

THE WHITE HOUSE
August 25, 2008

MEMORANDUM FOR THE SECRETARY OF DEFENSE
THE SECRETARY OF THE INTERIOR
THE SECRETARY OF COMMERCE
THE CHAIRMAN OF THE COUNCIL
ON ENVIRONMENTAL QUALITY

SUBJECT: Potential Marine Conservation Management
Areas

The Chairman of the Council on Environmental Quality has advised me there are objects of historic and scientific interest in areas under the jurisdiction of the United States that may be appropriate for recognition, protection, or improved conservation and management under available authorities including by executive order or action under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), Outer Continental Shelf Lands Act (43 U.S.C. 1331 *et seq.*), National Marine Sanctuaries Act (16 U.S.C. 1431, *et seq.*), or the Antiquities Act (16 U.S.C. 431). These objects include:

In the central Pacific, coral reefs, pinnacles, sea mounts, islands and surrounding waters of Johnston Atoll, Howland, Baker and Jarvis Islands, Kingman Reef, Palmyra Atoll, Wake Island, and Rose Atoll that are isolated from population centers, mostly uninhabited, and support endemic, depleted, migratory, endangered and threatened species of fish, giant clams, crabs, marine mammals, sea turtles, seabirds, migratory shorebirds and corals that are rapidly vanishing elsewhere in the world. The reefs in these areas support unique localized upwelling-based productivity, and two of the atolls are repositories of the larvae of many marine species transported from the biodiversity-rich western Pacific.

In the western Pacific Ocean, the marine waters around the northern islands of Commonwealth of the Northern Mariana Islands, including the Mariana Trench, that offer an exceptional and diverse collection of marine life and habitat.

Please provide to me your assessment, with relevant supporting information, including the views of the

territorial and local governments and other interested parties, of the advisability of providing additional recognition, protection or improved conservation and management for objects of historic or scientific interest at these islands, coral reefs, geologic features and surrounding marine waters.

Because Johnston Atoll and Wake Island have supported active military bases, and the other areas in the Pacific include areas of strategic importance to the United States, any measures your assessment recommends should not limit the Department of Defense from carrying out the mission of the various branches of the military stationed or operating within the Pacific and shall be consistent with freedom of navigation and international law. Please also consider cultural, environmental, economic, and multiple use implications of any measures you recommend, including the extent to which they are compatible, if applicable, with sustaining access to: (1) recreational and commercial fishing; (2) energy and mineral resources; and (3) opportunities for scientific study.

With respect to each of these areas, your assessment should further identify whether there are opportunities and mechanisms for improved coordination of management among relevant agencies in accordance with Executive Order 13366 of December 17, 2004.

GEORGE W. BUSH

NORTHERN MARIANA ISLANDS & MARIANA TRENCH FACT SHEET

Natural resources

Physical Setting

- The Mariana Trench is 1,554 miles long and 44 miles wide. It contains the deepest known point on earth which is 36,201 feet.
- The Mariana Archipelago lies 3,700 miles west of Honolulu.

Geologic Structure

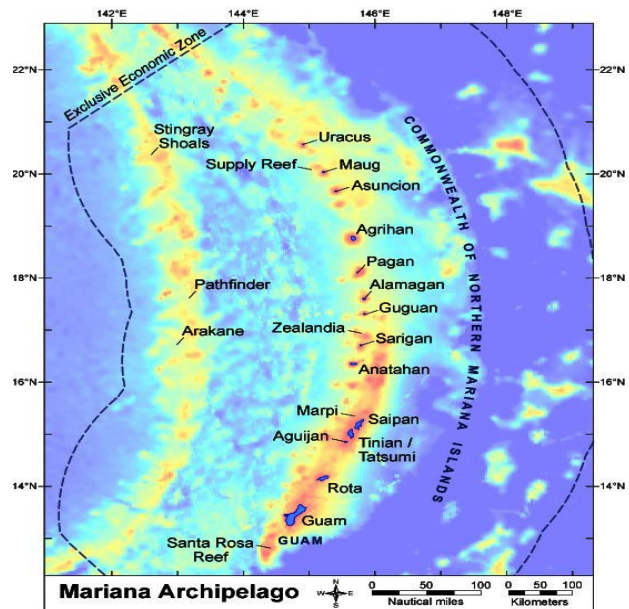
- This region is geologically very complex including a subduction zone, back-arc basins, and active and potentially-active island and submarine volcanoes.

Ecosystem Description

- The area represents the only place on Earth with huge (largest = 31-mile diameter and >1-mile high) active mud volcanoes that release hydrogen.
- The Champagne vent, located at the Eifuku submarine volcano, produces almost pure liquid carbon dioxide. This phenomenon has only been observed at one other site in the world.
- The molten Sulfur Cauldron (convecting pool of liquid sulfur) found at the Daikoku submarine volcano is unique; the only other known location of molten sulfur is on Io, a moon of Jupiter.
- Unlike other reefs across the Pacific, the northernmost Mariana reefs provide unique volcanic habitats that support marine biological communities requiring basalt.
- Maug Crater represents one of only a handful of places on Earth where photosynthesis and chemosynthetic communities of life are known to come together.

Biological Characteristics

- The marine waters of these areas contain very high numbers of apex predators, including large numbers of sharks.
- The waters of the Northern islands are a biodiversity hotspot in the Western Pacific, and include some of the most diversified and dense seamount hydrothermal ecosystems yet discovered.
- They also contain one of the most diverse collections of stony corals in the U.S.-affiliated Western Pacific, with approximately 350 species of stony corals currently identified in the area.
- The Northern islands and shoals in the CNMI have substantially higher large fish biomass, including



apex predators, than the southern islands and Guam.

- Twenty nine species of resident and transient cetaceans occur in the surrounding waters, 6 of which are listed as endangered.
- The waters of Uracas, Maug, and Asuncion support some of the largest biomasses of reef fishes in the Mariana Archipelago.

Historical

- Spanish galleon ship wrecks and grounded modern fishing vessels are not uncommon in the Mariana archipelago, but no records exist for the focus area.
- Asuncion and Maug were both leased by the German authorities from 1909 to 1912 for the purpose of harvesting bird feathers for the European and Japanese plumage trade. Six bird catchers were supposed to be working on Asuncion, but only human corpses were seen on the beach in 1910 when visited by the German station chief.

Cultural

- The native populations of the Chamorro and Carolinians represent a large part of the Northern Mariana Islands cultural history.

**Information provided in this fact sheet is a summary of data collected through the interagency assessment process as of October 1, 2008*

NORTHERN MARIANA ISLANDS & MARIANA TRENCH FACT SHEET

Human use & current management

- There have been 7 scientific expeditions to the area in the last 5 years. NOAA regularly conducts scientific cruises that host a variety of extensive scientific research and management programs.
- There are no known/permitted fisheries in the northern part of CNMI.
- No offshore oil or gas exploration or mineral extraction has been known to occur in the northernmost portion of the Mariana Trench, however, permits for mining Pozzolan sought for nearby Pagan Island.
- Marine fishery resources in the Exclusive Economic Zone are managed by the Department of Commerce, National Oceanic and Atmospheric Administration based on approved fishery management plans developed and recommended by the Western Pacific Fishery Management Council.
- Pagan Island and the waters surrounding it are currently designated for use in amphibious training in the U.S. Marine Corps Training Concept Plan for the western Pacific.

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- Fishery Management Plan for Bottomfish and Seamount Groundfish of the Western Pacific Region, Fishery Management Plan for Pelagic Fisheries of the Western Pacific Region, Fishery Management Plan for Coral Reef Ecosystems of the Western Pacific Region and implementing regulations found at 50 CFR Part 665. Draft Pacific Pelagic Fishery Ecosystem Plan (see www.wpcouncil.org)
- Map of Essential Fish Habitat Areas, visit www.wpcouncil.org/maps.htm
- For more on Species of Concern, link to http://www.fpir.noaa.gov/PRD/prd_species_of_concern.html
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HOWLAND, BAKER, AND JARVIS ISLANDS FACT SHEET

Natural resources

Physical Setting

- Depth range: 7 m elevation above sea level to 4,000 m below sea level.
- Currents: The Equatorial Undercurrent (EUC) moves from west to east along the Equator, creating localized nutrient rich upwelling in shallows next to the islands. These are 3 of only 6 islands in the entire Pacific where this phenomenon is possible.
- Relative location: From Honolulu, Howland is 3,123 km southwest, Baker is 3,164 km southwest, and Jarvis is 2,465 km south.

Geologic Structure

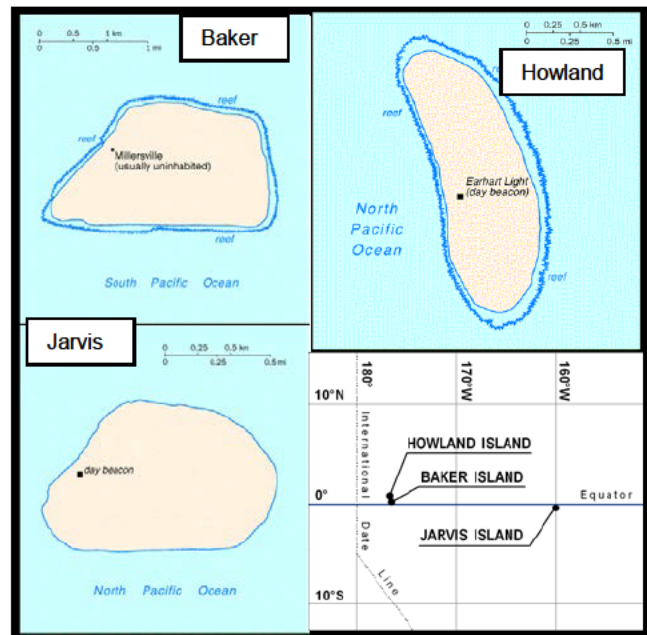
- All three first formed as fringing reefs around islands formed by Cretaceous (~120-65 million years ago) volcanoes. As the volcanoes subsided, the coral reefs grew upward, maintaining proximity to the sea surface.

Ecosystem description

- Low coral islands consist of coral rock, shells, and sand that support trees, shrubs, and grasses adapted to the arid climate at the Equator.
- All three are surrounded by shallow coral reefs to depths of 100 m, below which the reef slope descends steeply to great depths.
- Deep coral forests occur below photic zones of all three at depths below 200 m, and especially at Jarvis where surveys in 2005 revealed living colonies of precious and ancient gold coral up to 5,000 years old.

Biological characteristics

- Islands have fish biomass double that of the Papahānaumokuākea Marine National Monument and 10 times that of main Hawaiian Islands - due to current noted above
- Islands are high in coral cover and biodiversity (compared with Hawaii and



Florida), and are predator dominated systems; biomass of top predators exceeds Great Barrier Reef or Kenyan MPAs.

- The islands now host 11-15 nesting bird species; several nesting and migratory bird species are of conservation significance.
- Jarvis alone has nearly 3 million pairs of Sooty Terns.
- There are 284-342 fish species found off the islands. Giant clams (*Tridacna*) are common, and sharks of many species are especially abundant and larger at Jarvis.
- Endangered hawksbill turtle and threatened green turtles forage in nearshore waters.
- All three islands afford unique opportunities to conduct climate change research at the Equator, far from population centers; coral skeletons there have recorded the earth's climatic history for many millions of years.

Mineral Resources

- Aggregate, insular phosphorite, and precious coral could have an immediate economic impact if significant deposits and markets are found.
- In the EEZ, iron-manganese nodules offer an intermediate-term resource potential,

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HOWLAND, BAKER, AND JARVIS ISLANDS FACT SHEET

whereas the other deposit types represent long-term or unknown resource potentials.

Historic

- First visited by Europeans in early 1820s; claimed by the U.S. in 1856 under the Guano Act; guano mined until about 1890.
- In 1935, U.S. government sent colonists – including Native Hawaiians from Kamehameha Schools – to protect American claims; established Itascatown on Howland, Meyerton on Baker, and Millerville on Jarvis;
- The islands were attacked in late 1941 and early 1942, with several colonists killed the settlements were abandoned in 1942.
- Baker served as an air base during WWII.
- Howland Island is best known as the destination for Amelia Earhart and Fred Noonan when they disappeared on their famous around-the-world flight in 1937;

Human use & current management

- Islands have been uninhabited since World War II, except for periodic FWS field camps to conduct biological studies.
- Inventory and monitoring of associated coral reefs occurs every 2 years as a collaborative effort between FWS and NOAA.

Current management

- All 3 areas were designated as National Wildlife Refuges in 1974.
- Marine fishery resources in the EEZ are managed by the Department of Commerce based on fishery management plans developed and recommended by the Western Pacific Fishery Management Council in accordance with the Magnuson-Stevens Act (MSA).
- Under the MSA, NOAA has designated “Essential Fish Habitat” or EFH around the islands to protect habitats needed for fish stocks.

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JOHNSTON ATOLL FACT SHEET

Natural resources

Physical Setting

- Depth range: 10 m elevation to depths of 4,000 m.
- Relative location: 1,403 km southwest of Honolulu, HI.

Geologic Structure

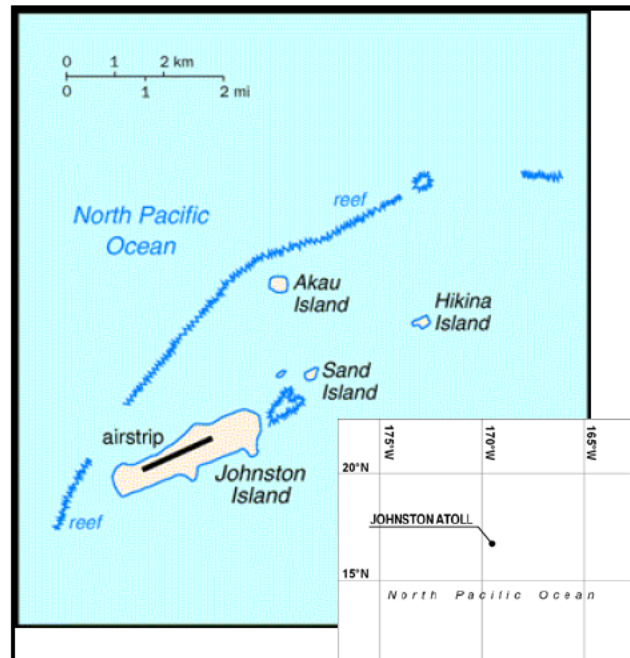
- Johnston, the northernmost island in the Line Islands chain, is an ancient atoll, and along with Wake Atoll is probably the oldest in the Pacific Ocean.
- Unlike most atolls, it does not have a surrounding barrier reef, but a semicircular emergent reef around the north and western margins of the island.

Ecosystem description

- Four major habitats characterize Johnston: low-lying islets consisting of the remains of corals and shells, shallow coral reefs to depths of 150 m, deeper reefs to depths of 1,000 m or more, and the slope of the ancient volcano on which the island rests.

Biological characteristics

- Johnston is a genetic/larval stepping stone from the Line Islands to the Hawaiian islands for invertebrates, other reef fauna, corals and dolphins.
- Despite its isolation, Johnston supports thriving communities of Table corals (*Acropora*), and a total of 45 coral species, including a dozen species confined to the Hawaiian and northern Line Islands.
- Some 300 species of reef fish are at Johnston, including the endemic Nahacky's pygmy angelfish.
- Many threatened, endangered and depleted species thrive there, including the green turtle, hawksbill turtle, and reef sharks. The surrounds waters are also used by six depleted/endangered cetacean species: sperm,



blue, sei, humpback, and north pacific right whales.

- Spinner dolphins are abundant, the endangered humpback whales may calve there, and the endangered Hawaiian monk seal are known to occasionally visit the atoll.
- Deep diving submersible surveys have revealed that Johnston supports the deepest reef building corals (*Leptoseris*) on record and large populations of hydrozoan corals (*Millepora*, *Distichopora*, *Stylaster*).
- Land areas support large populations of migratory shorebirds and resident seabird species, including populations of regional, national, or international significance of: Wedge-tailed Shearwaters, Christmas Shearwaters, Red-tailed Tropicbirds, Brown Boobies, Great Frigatebirds, Gray-backed Terns and White Terns.
- Approximately 200 threatened Green turtles forage at Johnston.

Mineral Resources

- Cobalt-rich iron-manganese crusts and seamount phosphorites have been

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systematically studied within the Johnston Atoll EEZ. Other mineral-deposit types have not been systematically surveyed in the EEZ, which likely contains immediate- to long-term potential mineral resources.

Historic

- Johnston Atoll was claimed by both the U.S. and Kingdom of Hawaii in 1856.
- The wreck of the 19th century New Bedford whaling bark, Jacob A. Howland, was discovered at Johnston Atoll by Dr. Philip Lobel. Survey for other potential submerged historical resources has not yet been conducted.
- President Coolidge designated islands within the atoll as a national wildlife refuge in 1926.
- President Franklin Roosevelt placed atoll under the U.S. Navy in 1934, except for the refuge. A Naval Defensive Sea Zone of 3 miles around the island was established in 1941.
- During WWII, the atoll was an important refueling station for planes and submarines. The facilities came under fire from Japan in December 1941, with no personnel casualties.

Human use & current management

- Johnston Island has been uninhabited since 2004. FWS, NOAA, and DoD staff make periodic visits to monitor fish and wildlife and waste disposal sites.
- The military mission ended in 2004. The Naval Defensive Sea Zone remains.
- A portion of the Atoll is a National Wildlife Refuge managed by FWS
- Marine fishery resources in the EEZ are managed by the Department of Commerce based on fishery management plans developed and recommended by the Western Pacific Fishery Management Council.

Key references

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PALMYRA ATOLL AND KINGMAN REEF FACT SHEET

Natural resources

Physical Setting

- Depth range: Palmyra ranges from 3 m above sea level to 4,000 m below; Kingman ranges from 0-2 m above sea level to about 2000 m below sea level.
- Relative location: From Honolulu, HI, Kingman is 1,776 km south and Palmyra is 1,823 km south.

Geologic Structure

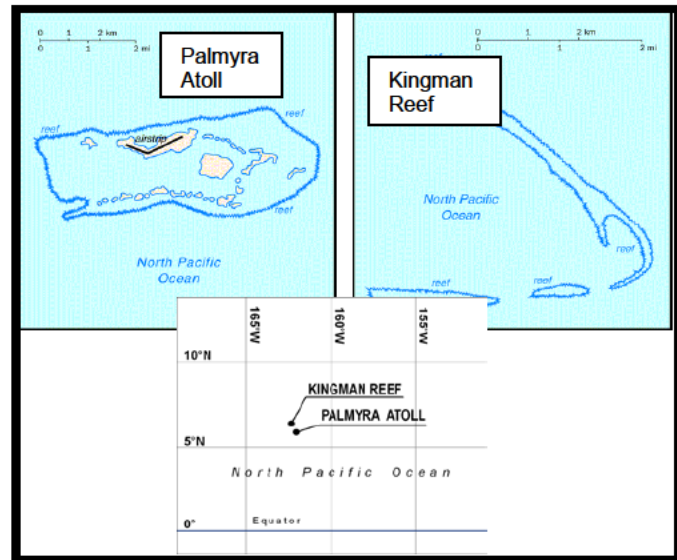
- Palmyra is a classic Darwinian Atoll that formed atop a sinking Cretaceous-era (~120-65mya) volcano. Kingman formed in the same manner, but is technically an atoll reef because it lacks permanent fast land areas or islands. Both are part of the Line Islands chain.

Ecosystem description

- Kingman Reef is known to be the most undisturbed coral reef in the U.S, with a fully structured inverted food web. Fish biomass and the proportion of apex predators at Kingman are greater than previously described from any coral reef ecosystem in the world.
- They are ideal "laboratories" for assessing effects of climate change without the difficulty of filtering anthropogenic impacts.

Biological characteristics

- Both atolls support higher levels of coral and other cnidarian species diversity (180-190 species) than any other atoll or reef island in the central Pacific, and twice as many as found in Hawaii or Florida.
- Palmyra atoll has one of the best remaining examples of *Pisonia grandis* forest found in the Pacific region. This forest type has been lost or severely degraded over much of its range due to increased human population and development.
- Fish species diversity at Palmyra (418 species) is higher, while that of Kingman (297 species) is comparable to that of the other remote Pacific refuges. Biomass of top predators at both areas is higher than in the Great Barrier Reef in Australia, Kenyan MPAs, or the NW Hawaiian Islands



- Many nationally and internationally threatened, endangered, and depleted species thrive there, including the green and hawksbill turtle, pearl oyster, giant clams (the highest concentration in the PRIAs), reef sharks, coconut crabs, groupers, humphead and napoleon wrasse, bumphead parrotfish, and dolphins.
- Significant numbers of threatened green turtles forage at both atolls, especially at Palmyra; the endangered hawksbill turtle forages at both atolls.
- Large schools of rare melon-headed whales reside off both atolls. A possibly new species of beaked whale was recently described from two specimens stranded at Palmyra and one at Christmas Island.
- Palmyra supports 11 nesting seabird species, including the 3rd-largest Red-footed Booby colony in the world. Large numbers of Bristle-thighed Curlews, a migratory shorebird of conservation significance, winter at Palmyra.

Historic

- Kingman Reef discovered in 1798; U.S. annexed reef in 1922; it was transferred to the Navy in 1934.
- Palmyra discovered in 1802. The atoll was annexed in 1898.

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PALMYRA ATOLL AND KINGMAN REEF FACT SHEET

- Kingman Reef's lagoon became an overnight stop on the Pan American Airways clipper route from the U.S. to American Samoa in 1937.
- During World War II, Palmyra hosted a 6,000-man Naval Air Station, an important link in the aerial supply route to Canton Atoll and Bora Bora in the South Pacific.

Cultural

- While early Polynesians and Micronesians likely found the island, there is no evidence of human habitation before the 1800s.

Human use & current management

Current human uses

- Kingman Reef is uninhabited.
- FWS and The Nature Conservancy manage a small research camp at Palmyra Atoll; TNC owns a portion of the atoll.
- NOAA conducts scientific cruises that host a variety of scientific research, including coral reef and habitat assessments.
- Kingman Reef NWR is closed to public access. Palmyra Atoll NWR is open to the public for wildlife observation and recreational catch and release bonefishing.
- Federal commercial fisheries include some trolling permits (mainly around Palmyra) and bottomfish fishing and shrimping (Kingman Reef). Around all the PRIAs there is the potential for coral harvest under the Western Pacific Coral Reef Ecosystem Fishery Management Plan, but to date no permits have been issued.

Current management

- The Federal portion of Palmyra and all of Kingman Reef are National Wildlife Refuges.
- Marine fishery resources in the EEZ are managed by the Department of Commerce based on fishery management plans developed and recommended by the Western Pacific Fishery Management Council.

Key references

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ROSE ATOLL FACT SHEET

Natural resources

Physical Setting

- Rose Atoll is located 240km east-south-east of Tutuila, American Samoa.

Geologic Structure

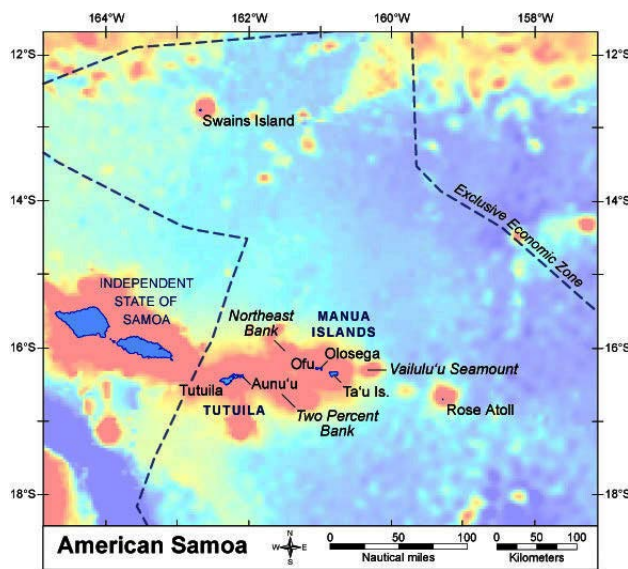
- Diamond shaped Rose Atoll, one of the smallest classic atolls in the world, was formed by the long-term accretion of carbonate reef building corals and crustose coralline algae built up on top of an ancient volcano.

Ecosystem Description

- Contains 113 species of stony corals, with shallow reefs that are dominated by crustose coralline algae (resulting in the pink hue of the fringing reef).

Biological Characteristics

- Provides isolated, undisturbed nesting grounds for threatened green and hawksbill turtles and has the largest number of nesting turtles in American Samoa.
- Supports 272 species of reef fish and more than 500 total species of fish.
- Supports largest remaining populations of Giant clam (*Tridacna maxima*) in Samoa, a globally depleted species heavily harvested on the populated islands elsewhere.
- Endangered humpback whales, pilot whales and the porpoise genus *Stenella* have all been spotted at Rose Atoll.
- There are 17 genera/functional groups of algae, with the *Caulerpa cupressoides*, a leafy green alga that is not found on any other American Samoan island.
- Provides habitat for 97% of American Samoan seabirds.
- Deep diving submersible dives in 2005 revealed many deep water species yet to be identified from photographs, including stalked crinoids and several deepwater fish.
- Several globally depleted fish species including sharks, Bumphead parrotfish, and Napoleon wrasses were reported in large



numbers a decade ago, although they have become rarer since that time.

Historical

- Rose Atoll was first seen by Westerners in 1722 and named in 1819 after French navigator Louis de Freycinet's wife.
- In the 1860s, a short-lived attempt was made by a German firm to establish a fishing station and coconut plantation.
- President Franklin Delano Roosevelt designated Rose a Naval Defense Area in 1941, but it was never used for that purpose, and in 1973 it was named Rose Atoll National Wildlife Refuge.
- Although chosen as a dive-bombing practice range during World War II, may not have been used for this purpose.

Cultural

- Known to Samoans, who have periodically visited over the past millennium, as "Motu O Manu" (literally meaning – "Island of seabirds").
- It is believed that Polynesians have harvested at Rose Atoll for millennia and several species, such as the giant clam were used for cultural celebrations and events.

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ROSE ATOLL FACT SHEET

Human use & current management

- The primary use of Rose Atoll over the past century has been as a scientific research base; however, fishing and use by yachters have also been reported.
- It is a natural laboratory, given its small size, defined boundaries, largely pristine nature, and long history of observations; with 300 scientific papers written since 1900 describing its geology, geography, biology, meteorology and history.
- At present there are no fisheries occurring at Rose Atoll.
- Rose Atoll has been uninhabited since the 1860s and will remain so except for deployment of periodic FWS field camps to conduct biological monitoring studies and environmental restoration projects.
- Inventory and monitoring of associated coral reefs within the refuge occurs every 2 years as a collaborative effort between the Fish and Wildlife Service and the National Oceanic and Atmospheric Administration.
- This national wildlife refuge is closed to public access and recreational uses.
- The Rose Atoll National Wildlife Refuge is managed by the Department of the Interior and fishery resources within the Exclusive Economic Zone are managed by the Department of Commerce and the Western Pacific Fishery Management Council under the Magnuson-Stevens Act.

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- Map of Essential Fish Habitat Areas, visit www.nmfs.noaa.gov/habitat/habitatprotection/profile/westernpacificcouncil.htm
- For more on Species of Concern, link to http://www.fpir.noaa.gov/PRD/prd_species_of_concern.html
- For more on Green Turtles, link to http://www.nmfs.noaa.gov/pr/pdfs/recovery/turtle_green_pacific.pdf
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- Executive Order 8683- Establishing Naval Defensive Sea Areas Around and Naval Airspace Reservations Over the Islands of Rose, Tutuila, and Guam; Pacific Ocean See [EO 10341](#), April 8, 1952; [EO 8729](#), April 2, 1941; [EO 10341](#), April 8, 1952 at: <http://www.archives.gov/federal-register/executive-orders/1941.html>

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WAKE ISLAND FACT SHEET

Natural resources

Physical Setting

- Wake Island is located 3,960 km west of Honolulu, Hawaii.

Geologic Structure

- Northernmost atoll in the Marshall Islands geological ridge and perhaps the oldest living atoll in the world.
- Significantly modified by the U.S. to create a military base before and after World War II (WWII).

Ecosystem Description

- Major habitats are the three low coral islands consisting of shells, coral skeletons, and sand, supporting atoll vegetation adapted to arid climate. Much of shoreline fortified with concrete and sheet pile.
- Shallow coral reefs presently thrive around the perimeter of the atoll and have recovered from military construction, fuel spills, and explosions from the deposition of ships and other war material. Beyond the shallow reefs, the outer reef slope descends sharply to great depths.

Biological Characteristics

- Approximately 100 species of corals reported, somewhat lower than larger and less isolated neighboring atolls to the south.
- Fish populations are abundant, have not been fished heavily since WWII, and support at least 323 species, including large populations of the Napoleon wrasse, sharks of several species, and large schools of the Bumphead parrotfish, all of which are globally depleted.
- Supports a rare grass species, *Lepturus gasparricensis*, and was home to endemic Wake rail until it went extinct during WWII.
- Wake supports 12 species of resident nesting seabirds and 6 species of migratory shorebirds; all of these are populations of regional significance and include 2 species of tropicbirds, 3 species of boobies, Great Frigatebird, Sooty Tern, Brown Noddy, and Wedge-tailed Shearwater.



- Black-footed Albatross and Laysan Albatross recently recolonized Wake; one of few northern albatross colonies outside the Hawaiian archipelago.
- Supports foraging populations of the threatened Green turtle (*Chelonia mydas*) and resident populations of Spinner dolphins.

Historical

- First sighted by Spanish explorer Mendana in 1568, named for British sea captain William Wake, who arrived in 1796.
- Wake was formally claimed by the US during the Spanish American War, when it was possessed for use as a cable station.
- Pan American Airways established a seaplane refueling base and 48-room hotel on Peale Island in 1935; first permanent residents.
- On December 11, 1941, the Marine garrison and 1,200 civilians completing construction of a major air and submarine base were attacked by the Japanese; the only amphibious landing attempt to be repulsed by shore-based guns during WWII in the Pacific. In a second attack on December 23, Wake's survivors were overwhelmed by Japanese soldiers, who maintained control over the atoll until September 1945.
- At least two Japanese destroyers, two transport landing craft, and multiple aircraft were lost in

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WAKE ISLAND FACT SHEET

the vicinity of Wake Island during the December 1941 assault.

- Placed on National Register of Historic Places in 1985 in recognition of its role in WWII and later designated as a National Historic Landmark.

Cultural

- Early navigators from the Marshall Islands visited Enen Kio (Wake Atoll in Marshallese) to hunt sea turtles and birds and to obtain facial tattoos.

Human use & current management

- Wake Island is a U.S. military base operated by the U.S. Air Force. Additional use is allowed on a case-by-case basis to support U.S. interests.
- Limited infrastructure and personnel support services are available on Wake Island. The host base operations include four on-island active duty Air Force and approximately 120 contract personnel.
- Wake Island maintains a 9843' x 150' runway, the longest strategic runway in the Pacific Islands.
- Wake Island supports a US Army launch support facility maintained by the Space and Missile Defense Command.
- In December 2007 the Air Force identified desired future mission capabilities including contingency operations, emergency/planned diverts, and as a stopover point for transpacific missions. A potential use for civilian aviation is under consideration. The Air Force plans to increase use to match pre-Typhoon IOKE activities.
- Marine fishery resources in the Exclusive Economic Zone are managed by the Department of Commerce, National Oceanic and Atmospheric Administration based on approved fishery management plans developed and recommended by the Western Pacific Fishery Management Council.

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- Map of Essential Fish Habitat Areas, visit www.wpcouncil.org/maps.htm
- For more on Species of Concern, link to http://www.fpir.noaa.gov/PRD/prd_species_of_concern.html

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